

Action research as an enhancement of natural problem solving

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Abstract

I think of action research as an extension of a natural approach to problem solving. Faced with a novel situation we often first investigate. We then develop an intention to act, and carry it out. We notice if it worked. Action research similarly cycles between intention, action and review. To this natural process it adds certain important enhancements. The review component is strengthened. Rigour and theory are given more attention. More care is given to identify who else should be involved, and how. Flexibility is strengthened. A variety of processes are used, many borrowed from other literatures and practices.

This paper begins with a broad overview of action research from this perspective. Different aspects of my own variations on this approach are then examined and described in more detail. As I examine my use of action research, I illustrate my comments with examples. Most of these are taken from a university class I facilitated for many years.

Keywords: action research flexibility rigour theory building data-driven research participation meta-methodology

1. Action research in overview

Imagine what happens when you're confronted with a novel situation to which you have to respond. At least some of the time, you are likely to try to get some more information to increase your understanding. When you have a sufficient understanding you may plan an action and try it out. You are then likely to check if your action worked. Often it doesn't; but in engaging with the situation you have probably added to your learning. You are now better equipped to try again.

This is not the only response to a new situation but it's not uncommon: review the situation by collecting information, plan a response, do it. Then review again to check that your actions worked as intended, starting a new cycle. You could summarise it: *review* → *plan* → *act* → *review* ... and so on.

This repeating cycle also characterises action research. Ernie Stringer's description (e.g. Stringer, 1999) captures this cycle briefly and simply: "*look* → *think* → *act*". Then *look* again to check, and move into the next cycle. Other writers use different words to describe essentially an equivalent cycle. "*Plan* → *act and observe* → *reflect*" (Kemmis / McTaggart, 1988, 11) starts at a different point in the cycle but is otherwise similar. Action alternates with critical reflection, which includes planning. The cycles integrate the dual aims of action (or change) and research (or theory, or understanding). Sometimes the action is emphasised, sometimes the research and theory. But both are present.

Action research might therefore be summed up as partly an extension of natural problem solving. I imagine this is why, when I describe action research to practitioners, they often say that they "already do that" (see Williams, 2004). In the sense of following the natural problem solving cycle, I expect that they do.

As Judy McKay and Peter Marshall (2001) point out, however, action research is more than just problem solving. There are enhancements. Indeed, there must be if action research is to achieve its multiple aims of generating participative change while attaining adequate rigour and building theory and understanding. Here I

focus on four enhancements in particular which add to the problem solving and theory-building capabilities of action research. Each enhancement consists of extra attention paid to some aspect of a situation. Most of them require some personal discipline for best results.

The two aspects most often described are stakeholder involvement and critical reflection. Involved stakeholders are more supportive of any resulting change. The critical reflection generates theory or understanding and provides much of the rigour. Just as important in my view is the third enhancement: a mindset consisting of deliberate flexibility and mindfulness. This is helped by the cyclic process of action research. The fourth enhancement is less important, but nevertheless useful. It consists of the many processes which can be borrowed from other literatures and practices. I describe these four enhancements in turn after a brief description of the university class from which I draw many of my illustrations.

1.1 Illustrative case study: a university class

The university class I will use as an illustrative case study was a fourth year class in “social consultancy”, the label I use henceforth to refer to it. Meeting for eight hours each week, and conducted over a full year, it constituted one third of an honours year for psychology students.

For present purposes, its important features were as follows. It was highly participative. After an initial period it was designed by those enrolled in it. An action orientation and critical reflection were emphasised. This will become more apparent from the examples I provide below. A more detailed description may also be found elsewhere (Dick, 1989).

I now return to a discussion of action research.

2. Stakeholder involvement for more effective change

Most research, including most qualitative research, is not participative. Some authors, Janice Morse (1998) and Barney Glaser (2003) among them, specifically

recommend against involving participants except as informants. Research is seen as the researcher's responsibility. Participation is seen as involving participants in tasks for which they may lack the skills or the interest.

In contrast, action research is almost universally described as a participative research approach. The approach taken in the *Handbook of action research* (Reason / Bradbury, 2001) is typical. Participation is seen as a necessary component. As Webb (1996) says, the participation achieved in practice by action researchers may sometimes be less than that espoused. For the most part, though, participation is highly valued and usually pursued.

Perhaps the most-quoted definition of action research is Robert Rapoport's. He defines action research as aiming "to contribute both to practical concerns of people in an immediate problematic situation and to goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport, 1970, 499).

There are a few exceptions to the demand for participation. Peter Clark (1972) allows for non-participative varieties while showing a preference for participation. Andy Neely and his colleagues argue for a combination of participative and "non-participative action research", as they describe it (Neely et al., 2000, 1120).

Speaking for myself, I prefer to treat the extent of participation as a design choice. I regard the cyclic process of action research, with its combination of flexibility and rigour, as too valuable an option even when non-participative to ignore entirely. In addition sometimes participants don't wish to participate. However, I have both value-based and pragmatic grounds for strongly preferring highly participative approaches, as the following examples illustrate.

2.1 Achieving involvement in a university class

After some early weeks, the social consultancy class already mentioned was participatively designed, conducted and evaluated. After several weeks of

relationship building and preparation, we agreed collectively on the design of the course.

Class members first chose the content of the course within the general constraint that it was about “social consultancy”. With the content agreed, they then identified the structures and learning processes to be used in it. Finally, they and I negotiated roles, mainly by volunteering to facilitate different aspects of the class. Most classes were experiential and were facilitated by class members. Occasional class sessions were set aside to review and revise collaboratively the design we had already developed.

These classes were small enough that high involvement could be offered to everyone. Usually there were fewer than 25 members. As the following case study illustrates, larger groups require a more elaborate approach.

2.2 Achieving involvement in a larger community

Achieving participation in community development projects for whole communities provides a different set of challenges. Over some years I assisted the Queensland Small Business Corporation (QSBC) with whole-community development in south eastern Queensland for provincial shires which were in decline. Typically there might be 2000 to 3000 citizens in a town, and about the same number elsewhere in the shire of which the town was a part.

A project officer ¹ from the QSBC carried out the initial reconnaissance and set up a broadly representative “steering committee” of active citizens. At that point I became involved. The project officer and I presented steering committee members with the challenge to use their energy to involve others rather than to make decisions themselves — which they would probably otherwise have done.

One of the first tasks of the steering committee was to recruit local citizens for a community planning day. At the same time we used whatever local media were

¹ Initially Dell Woodcock, and later Eve Robinson.

available to advertise the planning day and encourage people to ask us for an invitation. The application form asked for some basic biographical information so that we could ensure that those attending were a microcosm of the whole community. The steering committee deliberately recruited from any sectors of the community that were underrepresented.

For the planning day we used a visioning process based on a search conference (Emery, 1999). The outcome from the planning day was a set of action items. We invited someone present to volunteer to be the “liaison person” who would kick-start each of the chosen action items.

Each liaison person had two tasks. The first was to recruit a small working party of people who had a direct stake in the action item. The second was to ensure that other local stakeholders were kept informed. Each working party also contained a member of the steering committee, though not as chairperson. The steering committee member was there for communication between working parties and to the steering committee. Our intention was to set up a communication hierarchy that was not a control hierarchy.

Notice the multiple steps which we followed. The project officer recruited a steering committee. It recruited participants for a planning exercise. The participants then further recruited direct stakeholders onto working parties for planned community improvements.

To further widen involvement there was a slow rotation of citizens through the steering committee. Every six months or so a third of the steering committee resigned, to be replaced by other citizens.

Since then I have learned that a steering committee small enough to work well is too small to be representative enough of the community. I therefore now recommend splitting its functions in two. A small steering committee meets often to do the early planning and coordination. A “reference group”, larger and more

representative, meets less often to advise the steering committee and critique its plans.

2.3 Benefits of participation

As I've mentioned, part of my reason for preferring highly participative methods is value-based. I believe that those affected by a decision have a right, where possible, to be able to influence the decision making. I also have more pragmatic reasons. Involving more people ensures that more points of view are taken into account.

Even more importantly, people who have been involved — genuinely involved — in making a decision are likely to be more supportive of the decision. They are more likely to experiment with the implementation of a decision until it works well. A second- or third-best decision to which people are committed may work better than the “best” decision without commitment. Participation helps to generate that commitment. My assumptions here have been influenced by such organisation development writers as Wendell French and Cecil Bell (1999) and Edgar Schein (1999), among many others.

In an earlier life I was taught experimental research methods as an undergraduate in a psychology program. From such a perspective the rigour of action research would appear to be hopelessly compromised. It may seem that action research has increased the likelihood of change and given genuine involvement to people, but at some cost. Action research has seemingly abandoned the objectivity and control which many other research methods favour. It therefore needs other sources of rigour: sources which can coexist with flexible research and high levels of participation.

3. Critical reflection to build theory and improve rigour

Fortunately there are such sources of rigour. In action research there is access to multiple views to be reconciled. Because the cycles are iterative there are many opportunities to correct misperceptions, in particular through a vigorous search for

evidence which disconfirms them. Within each cycle the assumptions (including theoretical assumptions) are tested in practical action. As Davydd Greenwood (2002) points out, this is a strong test. Theories derived from action and readily applied in action further strengthen the rigour. I deal with each of these in turn, in each case providing examples.

3.1 Deepening understanding by reconciling multiple views

Without facilitation, there is a danger that a group of people engaged in action research will either debate with each other adversarially, or will conform to, rather than challenge, an emerging consensus. We know from early research on conformity (summarised by John Levine, 1999) that there can be strong pressures on individuals in group interaction. Levine also offers evidence that conformity is more often because group members come to doubt their perceptions than because they fear the group reaction.

It is my experience that group interaction can be more honest if two conditions are met. The first is that people are willing to say what they are thinking. The second is that they are willing to change those views when genuinely persuaded that a different view is preferable. This results, as with the delphi process (see Keeney et al., 2006), in a situation where people can learn from one another.

I have often been able to help the social consultancy class and other groups create this climate of mutual education by suggesting four practices to them:

- that we take a few minutes of “thinking time” to reach an individual perception before we talk
- that we state our view openly even when it seems to challenge an emerging consensus
- that we state our view tentatively, to give information rather than to persuade, so that we can more easily change our mind without losing face
- that we listen to others and try to understand their point of view, *especially* when we initially disagree with what they are saying.

It seems that when everyone agrees to act in this way a consensual outcome is more likely to occur. Similarly, in facilitating focus groups, I say “If you can be both honest and tactful, that’s good. If you can manage only one, please be honest. We need the honesty, and we can if necessary manage the side effects of a lack of tact.”

3.2 Improving rigour by seeking disconfirmation

It seems that there is a natural tendency for people to give greater weight to evidence which supports their current assumptions than to disconfirming evidence (Wason, 1966; Gale / Ball, 2006). This is a hazardous bias for a researcher. In complex situations it’s likely that some confirming evidence *can* be found. Yet if we accept the logic of Karl Popper’s argument no amount of confirming evidence can confirm a theory beyond doubt (Popper, 1959). For two reasons the hazard is potentially greater for research which grounds theory in the data (as most action research does). Apparent patterns in the early data may influence the interpretation of later data. Disconfirming evidence, most effective for shaping the emergent theory, may be overlooked. Personal discipline is required to notice disconfirming evidence and take it into account.

In my own practice I try to hold my opinions lightly. I try (not always successfully) to be genuinely curious about opinions which differ from mine. It helps that I believe that many disagreements arise from different language usage rather than from different understanding. In my coaching of young researchers I encourage them to react with curiosity to a view they disbelieve. When they do so they discover that it helps them to be more open to other views.

The social consultancy class encountered a similar phenomenon. When class members were designing a workshop or a project, for example, they found it easy enough to generate a number of different options. When a particular option was chosen, however, it was almost as if the class members became blind to its disadvantages. I tried encouraging them to list the advantages and disadvantages of each option before choosing. This made some difference, though not as much as I had hoped. Requiring them to evaluate their own work was also useful, especially

for those who were able to identify the weaknesses in it. Combining these strategies with those I discuss in the next two sections was more helpful.

3.3 Testing assumptions in action

Within each *plan* → *act* → *review* cycle, the *action* tests the assumptions underpinning the plan. This is why diagnosis proceeds more effectively when it is interleaved with action, as Schein (1996) explains. The review identifies what worked and what didn't, making the learning explicit. The quality of learning depends, however, on the quality of observation during the action, and the quality of the review.

Built into the design of the social consultancy class were several different mechanisms to encourage regular critical reflection. The intention of these was to help the class members' learning — of skills and theory — to be more explicit. In 1992, Adelle Bish was assisting me with the class while she completed a coursework masters course. For her dissertation (Bish, 1992) she studied the reflection of class members. She concluded that different people favoured different reflective strategies. Having multiple mechanisms was therefore beneficial. We had planned individual mechanisms for the more introverted class members and interactive mechanisms for those who were more extraverted. Both introverts and extraverts reported that a multiplicity of reflective practices and a combination of individual and interactive reflective practices were of benefit.

In the class and in my own practice more careful planning before action enhanced observation during action and critical reflection afterwards. It is as if the planning assisted me to observe more closely and reflect more critically. This was most apparent when my planning used a theory of action approach, which I now describe.

3.4 Making assumptions explicit with a “theory of action” approach

In many action research studies, participants want to know what to do to achieve the outcomes they want — that is, what actions will achieve the desired outcomes. This

suggests that a theory of action approach to theory may be appropriate. As Argyris and Schön (1974, 29) phrase it, such a theory can take this form:

In situation S , if you intend consequences C , do A , given assumptions $a_1 \dots a_n$

Such information can be elicited by working in turn through a set of six questions, in three pairs: ²

- 1a What are the important features of the situation?
- 1b Why do we think those are the important features?
- 2a If we're right about the situation, what outcomes [that is, consequences] are desirable and feasible?
- 2b Why do we think those outcomes are desirable and feasible in that situation?
- 3a What actions do we think will give those outcomes in that situation?
- 3b Why do we think those actions will give us those outcomes in that situation?

Agreement is reached on each response before proceeding to the next question. Each pair of questions builds on the preceding pair. By the final question, those taking part know what they intend to do. They have also made explicit the assumptions on which their plans are based. Tacit assumptions have become explicit theory. I also use the same questions to guide my own planning and later observation and reflection.

The theory begins as local theory, fitting the specific situation. Over time, as experience grows, the theory can become more general. It can consist, for example, of ways of creating a suitable climate for self-management in a university class and elsewhere, as illustrated by the examples I have used.

² This approach was developed in the course of a discussion between Alan Davies and me (as thesis supervisors) and Stephanie Chee, Goh Moh Heng, Richard Kwok and Shankar Sankaran (as PhD candidates). Being action oriented senior managers the candidates were most interested in achieving their outcomes. Outcomes achieved, their interest in reflection was not great. It was only later that I realised that the questions conformed to Argyris and Schön's theory of action.

3.5 The research in action research

I can now describe the way in which information is collected for both action and research, and theory is built. Because the cycles are iterative, each cycle can develop further the theory developed in earlier cycles. Information from the current cycle is compared to the emergent theory. Particular attention is paid to information which does not seem consistent with the theory. In this way the theory is continuously refined, the better to fit the practical situation. It's likely that much of the information *will* be consistent with the emergent theory. Exceptions to this are then vigorously sought. The overall process is summarised graphically in Figure 1.

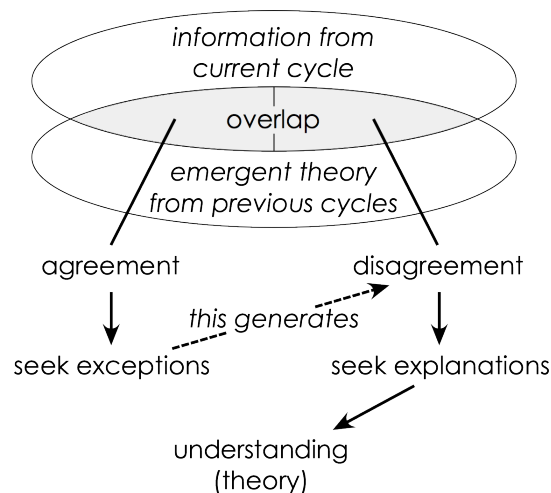


Figure 1. Generating theory in action research (modified from Dick, 2002)

An equivalent process can be used to collect information from participants who are involved mainly as informants. For example a steering committee or working party can use it to build their own understanding of their situation. It is also the “engine” that underpins convergent interviewing (Dick, 1990), useful in other forms of qualitative research. Driedger et al. (2006) and Rao / Perry (2003) provide accounts of their experience in using this approach.

In the social consultancy class most aspects of the course were negotiable. One non-negotiable condition, however, was that all class members were required to

critique everything that they did. As part of their evaluation they were expected to identify the *disadvantages* of what they had done. In giving feedback on the written component of practical work we made clear that we paid more attention to what they learned from the activity than to the activity itself. We were also more interested in *why* they did something than in *what* they did.

We (the staff) also wanted to increase the likelihood that they would plan activities before they carried them out. To this end we encouraged them to consult with us or colleagues during the planning phase of any activity. We strongly encouraged them to describe their plans as theories of action: that is, to say what they intended to do, what result they expected, and why they expected that result.

It will be noted that, consistent with Popper's (1959) views, it is disconfirming evidence that drives the refinement of both theory and action. As Louise Kidder argues persuasively, examination of "negative cases" (Kidder, 1981, 241) builds strong theory. It offers rigour comparable to that of experimental research. In action research there are continuing opportunities to test the emerging theory in action and to challenge it with disconfirming evidence. These opportunities are present in every or almost every turn of the action research cycle. They exist without undermining the flexibility which can characterise action research.

4. Flexible mindfulness

A single spiral of repeated *action* → *reflection* cycles confers great flexibility. Within each cycle the critical reflection allows the ongoing revision of both theory (or understanding) and action plans. Theory and practice do not need to be known in detail at the start of a project. Continuously refined, they improve as the research situation slowly reveals itself to the researcher and the participants.

Allow for nested cycles and the flexibility is further enhanced. I think of action research as containing cycles within cycles within cycles. I agree with Dennis List (2006, 673) when he explains that nested cycles allow more "opportunities for reflection and reperception". The longest cycles may occupy a whole research

program. Within them they contain other cycles of different length, through to the shortest cycles that may occupy only seconds or less. In the shorter cycles I can be noting the effect, as I act, of my actions — and changing in mid-action to take the effect into account. Kath Fisher and Renata Phelps (2006) make a good case that action research is a performing art, like teaching (Sarason, 1999) and management (Vaill, 1991). I agree with them. The planning I mentioned earlier is valuable, but only if used flexibly.

There are parallels here with the work of Donald Schön (1983, 1987). Within the longest cycles the critical reflection consists more of reflection-on-action, in Schön's terminology. The intermediate and shorter cycles, however, can approach reflection-in-action. As Schön says, this is an important vehicle for learning from experience. (See also Russell / Munby, 1991.) It is my experience that the shortest cycles can elicit the mindfulness that Valerie Bentz and Jeremy Shapiro (1998) identify as useful to research.

You could say that the use of nested cycles can convert action research from a research methodology to a mindset. It is the attention and intention during action which contribute to both flexibility and learning.

Flexibility and learning were both important to the social consultancy class. Those present were learning to be consultants and facilitators, occupations where flexibility is very helpful. Evaluative reflection was scheduled into the class for a variety of cycle times:

- major evaluations mid-year and at the end of the year
- reflection time at the end of each class, both in pairs or small groups and in the class as a whole
- evaluation (and therefore reflection) built into every class activity.

At shorter timescales we would halt the action in mid-stream from time to time, to analyse what was happening. When I was facilitating I would often think aloud while I facilitated. In this way I tried to make my continuing use of brief *action* →

reflection cycles evident. I wanted to demonstrate that I was responding to the situation in the moment rather than following a recipe or pre-planned set of actions.

From time to time my facilitation didn't work as intended. When this happened it provided me with an excellent opportunity to make my own theory-building evident. To do so I would first explain the assumed theory underpinning my attempted facilitation. I would do so in theory of action format: "This was my reading of the situation. This was the outcome I expected. This is what I did to achieve that outcome. These are the theoretical assumptions underpinning my facilitation." I would then examine the assumptions to identify those most likely to be incorrect. Finally I would revise my theoretical assumptions and explain what I therefore intended to do differently.

5. A framework which can incorporate other processes

It can be seen that action research is a broad framework which can include processes from other literatures and practices. When I was a novice in action research I found that the practices of industrial democracy provided me with some guidance. However, it lacked the detail that would have been helpful. Literatures which provided me with useful detail, and still do, include organisation development, community development and facilitation (for example McLean 2006, Mikkelsen 2005, and Schuman 2005, respectively), among many others. For me, action research provides an overarching framework. The detailed processes come from elsewhere, especially the practitioner literature.

In a similar manner action research can serve as a meta-methodology to guide the choice and detailed design of other research methodologies. At the beginning of a change program, for example, I may not know what other research approaches can complement the action research that I'm doing. As the need arises I can use other methodologies. The Oxford House studies of addiction recovery (Jason et al., 2006) use action research in much this way.

6. The role of action research and the action researcher

For much of this paper I've written as if action research is a distinct set of activities segregated from other activities. Instead the world is complex and entangled. There is benefit in a research approach which is fluid and flexible. I hope it is now more apparent that action research can achieve such fluidity and flexibility. The action researcher and the participants are guided by what happens in the moment. This has implications for the role of action research and the action researcher.

6.1 Action research as social research

Action research typically is carried out by people individually, in groups, and in communities and organisations. They use it to understand and change their situation. It is therefore social, and it is research. It is distinguished from much other social research by its strong action orientation. Those who do the research also do the action. The action and the research are closely integrated, each occurring in each action research cycle. Thus it complements other social research.

Unlike much other social research it is emergent and data-driven. Its flexibility, required by its action orientation, allows it to respond to the emerging aspects of the research situation. Most other social research begins with a review of the literature, and from that a research question emerges. The research question drives the design. Or rather, that's the espoused idea, sometimes followed in practice and sometimes not (Bryman, 2007).

Action research can begin with integrated action and research in the research situation. There can be a "thematic concern" (Kemmis / McTaggart, 1988) rather than a more precise question; and not even that is required. A research situation is enough. As with Glaserian grounded theory (Glaser, 1998), in action research the literature can wait until the research situation is better understood. In this respect too, action research (together with grounded theory) complements most other social research.

6.2 The researcher's role

Much of the action research literature expects an action researcher to pursue empowerment or emancipation of participants, for example by engaging them as co-researchers. Some, following Shirley Grundy (1982), allow for three varieties of action research: technical, practical and emancipatory. Like Wilfred Carr and Stephen Kemmis (2005) they then make clear that within this trilogy it is the emancipatory action research that is truly to be desired.

I have a great deal of sympathy for this position. I aspire to make equal co-researchers of participants. I would like to think that I look for opportunities to push my action research in this direction. However, either I lack skills that these advocates possess, or the world is more complex than they seem to acknowledge. For me emancipation is something to work towards. Within the constraints and the complexity of the situations I face it is a position I can seldom adopt at the start.

Most social consultancy classes, for example, eventually became self-managed in most respects. However, it has been my experience that classes moved most easily towards self-management when I facilitated the first four or five weeks. During this time I worked to prepare class members for greater participation. Among other things I conducted intense community building for the class as a whole and intense relationship building within small groups. I designed and ran life and career planning sessions so that participants could decide individually how they wanted the class to relate to the rest of their life. I arranged for them to meet practitioners, to hear first hand what it was like to be consultant and facilitator. And more. Then and only then we planned the rest of the class participatively and began to share the responsibilities.

For me, starting up an action research or action learning team is similar. The first several hours are spent in what I think of as necessary preliminaries. We build relationships. We clarify our shared purpose. We agree, tentatively, on the processes we are going to use. We identify other stakeholders to be consulted or

otherwise involved. We negotiate roles. Only then does the actual research or project work begin.

In addition, it is typically the researcher who accumulates experiences in a variety of settings. It is therefore often the researcher who is best able to generalise beyond the local theories to theories which apply more widely.

Action research is ...?

For me, action research is a research framework characterised especially by five qualities. First, it can be enormously flexible and responsive to the research situation, following wherever the data lead. Second, it consists of nested cycles, each cycle integrating action and research. Third, it can be used in highly participative ways. In fact, it is often at its best when so used. Fourth, it can incorporate sources of rigour which don't undermine its flexibility or its participation. Fifth, it can be done in such a way that implicit assumptions are made explicit as theories, especially as theories of action. These qualities allow it to achieve change and theory development at the same time, at scales which range from individual to organisation and community and beyond.

In much of my own work action research is my research approach of choice. This is not because of any evangelistic fervour. I work as a practitioner who wishes my practice to be based on a good understanding of the work I do and the systems I work with. I don't know of other research approaches which serve that purpose quite as well.

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